

SEQUENCE LISTING

<110> Yan et al.

<120> SUBSTRATES AND ASSAYS FOR BETA-SECRETASE ACTIVITY

<130> 29915/00281B

<140> To be assigned  
<141> 2004-03-16

<150> 09/908,943  
<151> 2001-07-19

<150> 60/219,795  
<151> 2000-07-19

<160> 197

<170> PatentIn Ver. 2.0

<210> 1  
<211> 2070  
<212> DNA  
<213> Homo sapiens

<400> 1  
atggcccaag ccctgcccctg gtcctgtctg tggatggcg cgggagtgct gcctgcccac 60  
ggcacccagc acggcatccg gctgcccctg cgcagcggcc tggggggcgc cccccctgggg 120  
ctgcggctgc cccgggagac cgacgaagag cccgaggagc cggccggag gggcagctt 180  
gtggagatgg tggacaacct gaggggcaag tcggggcagg gctactacgt ggagatgacc 240  
gtgggcagcc ccccgccagac gctcaacatc ctggtggata caggcagcag taactttgca 300  
gtgggtgtctg ccccccaccc cttcctgtcat cgctactacc agaggcagct gtccagcaca 360  
tacccggacc tccggaaggg tggatgtctg ccctacaccc agggcaagtg ggaaggggag 420  
ctgggcaccc acctgttaag catccccat ggcccaacg tcactgtgcg tgccaacatt 480  
gctgccatca ctgaatcaga caagttttc atcaacggct ccaactggga aggcatcctg 540  
gggctggccat atgctgatg tgccaggcct gacactccc tggagcctt ctttgactct 600  
ctggtaaaggc agaccacgt tcccaaccc ttcctccctgc acctttgtgg tgctggcttc 660  
ccccctcaacc agtctgaagt gctggcctct gtccggaggg gcatgatcat tgaggtatc 720  
gaccactcgc tgtacacagg cagtctctgg tatacaccca tccggccggaa gtggatttat 780  
gaggtcatca ttgtgcgggt ggagatcaat ggacaggatc tggaaaatggaa ctgcaaggag 840  
tacaactatg acaagagcat tggagacatg ggcaccacca accttcgttt gcccaagaaa 900  
gtgtttaagg ctgcagtcaa atccatcaag gcagccctct ccacggagaa gttccctgat 960  
ggtttctggc taggagagca gctgggtgtc tgcaaggcag gcaccaccc ttgaaacatt 1020  
ttcccagtca tctcaactcta cctaattgggt gagttacca accagtccctt ccgcacatcacc 1080  
atccctccgc agcaataacct gcccggcagtg gaagatgtgg ccacgtccca agacgactgt 1140  
tacaagtttccatc ccatctcaca gtcatccacg ggcactgtt tggagctgt tatcatggag 1200  
ggcttctacg ttgtcttga tcggggcccgaa aacgaattt gctttgtctg cagcgcttgc 1260  
catgtgcacg atgagttcag gacggcagcg gtggaaaggcc cttttgtcac ctggacatg 1320  
gaagactgtg gctacaacat tccacagaca gatgagtcac ccctcatgac catagcctat 1380  
gtcatggcgc ccatctgcgc cctttcatg ctggccactct gcctcatgg gtgtcagtgg 1440  
cgctgcctcc gctgcctgcgc ccagcagcat gatgactttt ctgatgacat cttccctgtctg 1500  
aagtgaggag gcccattggc agaagataga gatccccctg gaccacacct ccgtggttca 1560  
cttggtcac aagttaggaga cacagatggc acctgtggcc agagcacctc aggaccctcc 1620  
ccacccacca aatgcctctg cttgtatggaa gaaggaaaag gctggcaagg tgggttccag 1680  
ggactgtacc tggatggaaac agaaaagaga agaaaagaagc actctgtgg cggaaatact 1740  
cttggtccacc tcaaattttaa gtcgggaaat tctgtgtctt gaaacttcag ccctgaacct 1800  
ttgtccacca ttccatttaa ttctccaacc caaagtattt ttttttttctt agtttcagaa 1860  
gtactggcat cacacgcagg ttaccttggc gtgtgtccct gtggtaaccct ggcagagaag 1920  
agaccaagct tggatccctg ctggccaaag tcagtaggag aggtatgcaca gtttgctatt 1980  
tgcttttagag acagggactg tataacaag cctaacattt gtcgaaagat tgcctcttga 2040  
attaaaaaaaaaaaaaaa aaaaaaaaaaaaaaaa aaaaaaaaaaaaaaaa 2070

<210> 2  
<211> 501  
<212> PRT  
<213> Homo sapiens

<400> 2  
Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val  
1 5 10 15  
Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser  
20 25 30  
Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp  
35 40 45  
Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val  
50 55 60  
Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr  
65 70 75 80  
Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser  
85 90 95  
Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr  
100 105 110  
Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val  
115 120 125  
Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp  
130 135 140  
Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile  
145 150 155 160  
Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp  
165 170 175  
Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp  
180 185 190  
Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro  
195 200 205  
Asn Leu Phe Ser Leu His Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln  
210 215 220  
Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile  
225 230 235 240  
Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg  
245 250 255  
Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln  
260 265 270  
Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val  
275 280 285  
Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala  
290 295 300

Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp  
305 310 315 320

Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr  
325 330 335

Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val  
340 345 350

Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg  
355 360 365

Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala  
370 375 380

Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu  
385 390 395 400

Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala  
405 410 415

Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu  
420 425 430

Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro  
435 440 445

Gln Thr Asp Glu Ser Thr Leu Met Thr Ile Ala Tyr Val Met Ala Ala  
450 455 460

Ile Cys Ala Leu Phe Met Leu Pro Leu Cys Leu Met Val Cys Gln Trp  
465 470 475 480

Arg Cys Leu Arg Cys Leu Arg Gln Gln His Asp Asp Phe Ala Asp Asp  
485 490 495

Ile Ser Leu Leu Lys  
500

<210> 3  
<211> 1977  
<212> DNA  
<213> Homo sapiens

<400> 3  
atggcccaag ccctgcccctg gtcctgtctg tggatggcg cgggagtgct gcctgcccac 60  
ggcacccagc acggcatccg gtcgcctg cgcacggcc tggggggcgc cccctgggg 120  
ctggggctgc cccgggagac cgacgaagag cccgaggagc cggccggag gggcagctt 180  
gtggagatgg tggacaacct gaggggcaag tcggggcagg gctactacgt ggagatgacc 240  
gtggggcagcc ccccgccagac gtcacacatc ctgttgata caggcagcag taactttgca 300  
gtgggtgtcg ccccccaccc cttcctgtcat cgctactacc agaggcagct gtccagcaca 360  
tacccgggacc tccggaaggg tggatgttg ccctacaccc agggcaagtg ggaaggggag 420  
ctgggcaccc acctggtaag catccccat gcccccaacg tcactgtcg tgccaacatt 480  
gtgcccata ctgaatcaga caagtttttc atcaacggct ccaactggga aggcatactg 540  
gggctggct atgctgagat tgccaggctt tggatgtcg gcttccccc caaccagtct 600  
gaagtgtgg cctctgtcg aggagcatg atcattggag gtatcgacca ctcgctgtac 660  
acaggcagtc tctggataac acccatccgg cgggagtggt attatgaggt gatcattgtg 720  
cgggtggaga tcaatggaca ggtatgtaaa atggactgca aggagtacaa ctatgacaag 780  
agcattgtgg acagtggcac caccaacctt cgttgccc agaaaagtgtt tgaagctgca 840  
gtcaaatcca tcaaggcagc ctcctccacg gagaagttcc ctgatgttt ctggcttagga 900  
gagcagctgg tggatgtggca agcaggcacc accccttggaa acatttccc agtcatctca 960  
ctctacctaa tggatgtggat taccaaccag tccttccgca tcaccatcct tccgcagcaa 1020

tacctgcggc	cagtggaaaga	tgtggccacg	tcccaagacg	actgttacaa	gttgcacatc	1080
tcacagtcat	ccacgggcac	tgttatggga	gctgttatca	tggagggctt	ctacgttgc	1140
tttgcattgg	cccgaaaacg	aattggcttt	gctgtcagcg	cttgcacatgt	gcacgatgag	1200
ttcaggacgg	cagcggtgga	aggccctttt	gtcaccttgg	acatggaaaga	ctgtggctac	1260
aacattccac	agacagatga	gtcaaccctc	atgaccatag	cctatgtcat	ggctgcacatc	1320
tgcgccctct	tcatgctgcc	actctgcctc	atggtgtgtc	agtggcgctg	cctccgctgc	1380
ctgcccagc	agcatgtatga	cttgcgtat	gacatctccc	tgctgaagtg	aggaggccca	1440
tggcagaag	atagagattc	ccctggacca	cacccctccgtg	gttcaacttgc	gtcacaagta	1500
ggagacacacg	atggcacctg	tggccagagc	acctcaggac	cctcccccacc	caccaaatgc	1560
ctctgccttg	atggagaagg	aaaaggctgg	caaggtgggt	tccaggact	gtacctgttag	1620
gaaacagaaa	agagaagaaa	gaagactct	gctggcggga	atactcttgg	tcacctcaaa	1680
ttaaagtccg	gaaattctgc	tgttggaaac	ttcagccctg	aaccttgc	caccattct	1740
ttaaattctc	caacccaaag	tattcttctt	ttcttagtt	cagaagtaact	ggcatcacac	1800
gcagggttacc	ttggcgtgt	tccctgtgg	accctggcag	agaagagacc	aagcttgc	1860
ccctgctggc	caaagtca	aggagaggat	gcacagtttgc	ctatttgctt	tagagacagg	1920
gactgtataa	acaaggctaa	cattggtgca	aagattgc	cttggaaaaaa	aaaaaaaa	1977

<210> 4  
<211> 476  
<212> PRT  
<213> *Homo sapiens*

<400> 4  
Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val  
1 5 10 15

Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser  
20 25 30

Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp  
35 40 45

Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val  
50 55 60

Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr  
65 70 75 80

Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser  
85 90 95

Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr  
100 105 110

Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val  
115 120 125

Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp  
 130 135 140

Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile  
145 150 155 160

Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp  
165 170 175

Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Leu Cys Gly  
 180 185 190

Ala Gly Phe Pro Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly  
195 200 205

Ser Met Ile Ile Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu

210	215	220
Trp Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val		
225	230	235
Arg Val Glu Ile Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr		
245	250	255
Asn Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu		
260	265	270
Pro Lys Lys Val Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser		
275	280	285
Ser Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val		
290	295	300
Cys Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser		
305	310	315
Leu Tyr Leu Met Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile		
325	330	335
Leu Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln		
340	345	350
Asp Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val		
355	360	365
Met Gly Ala Val Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala		
370	375	380
Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu		
385	390	395
Phe Arg Thr Ala Ala Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu		
405	410	415
Asp Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu Ser Thr Leu Met Thr		
420	425	430
Ile Ala Tyr Val Met Ala Ala Ile Cys Ala Leu Phe Met Leu Pro Leu		
435	440	445
Cys Leu Met Val Cys Gln Trp Arg Cys Leu Arg Cys Leu Arg Gln Gln		
450	455	460
His Asp Asp Phe Ala Asp Asp Ile Ser Leu Leu Lys		
465	470	475

<210> 5  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 5  
Lys Val Glu Ala Asn Tyr Glu Val Glu Gly Glu Arg Lys Lys

1 5 10

<210> 6  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 6  
Lys Val Glu Ala Asn Tyr Glu Val Glu Gly Glu Arg Cys Lys Lys  
1 5 10 15

<210> 7  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 7  
Lys Val Glu Ala Asn Tyr Ala Val Glu Gly Glu Arg Lys Lys  
1 5 10

<210> 8  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 8  
Lys Val Glu Ala Asn Tyr Ala Val Glu Gly Glu Arg Cys Lys Lys  
1 5 10 15

<210> 9  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 9  
Glu Ala Asn Tyr Glu Val Glu Phe  
1 5

<210> 10  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 10  
Gly Val Leu Leu Ala Ala Gly Trp  
1 5

<210> 11  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 11  
Ile Ile Lys Met Asp Asn Phe Gly  
1 5

<210> 12  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 12  
Asp Ser Ser Asn Leu Glu Met Thr His Ala  
1 5 10

<210> 13  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (7)  
<223> Xaa=cysteic acid

<400> 13  
Thr His Gly Phe Gln Leu Xaa His  
1 5

<210> 14  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

peptide sequence

<400> 14  
Cys Tyr Thr His Ser Phe Ser Pro  
1 5

<210> 15  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (4)  
<223> Xaa= any amino acid

<220>  
<221> SITE  
<222> (7)  
<223> Xaa= any amino acid

<400> 15  
Ser Thr Phe Xaa Gly Ser Xaa Gly  
1 5

<210> 16  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= any amino acid

<220>  
<221> SITE  
<222> (4)..(7)  
<223> Xaa= any amino acid

<400> 16  
Xaa Phe Ala Xaa Xaa Xaa Xaa Asn  
1 5

<210> 17  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (1)..(2)  
<223> Xaa=any amino acid

<220>  
<221> SITE  
<222> (4)..(7)  
<223> Xaa= any amino acid

<400> 17  
Xaa Xaa Gln Xaa Xaa Xaa Xaa Ser  
1 5

<210> 18  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (1)..(2)  
<223> Xaa= any amino acid

<220>  
<221> SITE  
<222> (4)..(7)  
<223> Xaa= any amino acid

<400> 18  
Xaa Xaa Glu Xaa Xaa Xaa Xaa Glu  
1 5

<210> 19  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 19  
Ser Glu Val Asn Leu Asp Ala Glu Phe Arg  
1 5 10

<210> 20  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 20

Ser Glu Val Lys Met Asp Ala Glu Phe Arg  
1 5 10

<210> 21  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> MOD\_RES  
<222> (5)  
<223> Nle

<400> 21  
Ser Glu Val Asn Xaa Asp Ala Glu Phe Arg  
1 5 10

<210> 22  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 22  
Gly Ser Glu Ser Met Asp Ser Gly Ile Ser Leu Asp Asn Lys Trp  
1 5 10 15

<210> 23  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 23  
Trp Lys Lys Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Lys  
1 5 10 15

Lys

<210> 24  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 24  
Ala Asn Leu Ser Thr Phe Ala Gln Pro Arg Arg  
1 5 10

<210> 25  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 25  
Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys Leu Val  
1 5 10 15

Phe Phe Ala Glu  
20

<210> 26  
<211> 16  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 26  
Leu Thr Gly Lys Thr Ile Thr Leu Glu Val Glu Pro Ser Asp Thr Ile  
1 5 10 15

<210> 27  
<211> 30  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (7)  
<223> Xaa= cysteic acid

<220>  
<221> SITE  
<222> (19)  
<223> Xaa = cysteic acid

<400> 27  
Phe Val Asn Gln His Leu Xaa Gly Ser His Leu Val Glu Ala Leu Tyr  
1 5 10 15

Leu Val Xaa Gly Glu Arg Gly Phe Phe Tyr Thr Pro Lys Ala  
20 25 30

<210> 28  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<220>  
<221> SITE  
<222> (6)  
<223> Xaa=cysteic acid

<220>  
<221> SITE  
<222> (7)  
<223> Xaa=cysteic acid

<220>  
<221> SITE  
<222> (11)  
<223> Xaa=cysteic acid

<220>  
<221> SITE  
<222> (20)  
<223> Xaa=cysteic acid

<400> 28  
Gly Ile Val Glu Gln Xaa Xaa Ala Ser Val Xaa Ser Leu Tyr Gln Leu  
1 5 10 15  
Glu Asn Tyr Xaa Asn  
20

<210> 29  
<211> 23  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 29  
Tyr Arg Tyr Gln Ser His Asp Tyr Ala Phe Ser Ser Val Glu Lys Leu  
1 5 10 15  
Leu His Ala Leu Gly Gly Cys  
20

<210> 30  
<211> 23  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 30  
Tyr Arg Tyr Gln Ser His Asp Tyr Ala Phe Ser Ser Val Glu Lys Leu  
1 5 10 15  
Leu His Ala Leu Gly Gly Cys  
20

<210> 31  
<211> 8  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 31  
Leu Val Asn Met Ala Glu Gly Asp  
1 5

<210> 32  
<211> 8  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 32  
Arg Gly Ser Met Ala Gly Val Leu  
1 5

<210> 33  
<211> 8  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 33  
Gly Thr Gln His Gly Ile Arg Leu  
1 5

<210> 34  
<211> 8  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 34  
Ser Ser Asn Phe Ala Val Gly Ala  
1 5

<210> 35  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 35  
Gly Leu Ala Tyr Ala Glu Ile Ala  
1 5

<210> 36  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 36  
His Leu Cys Gly Ser His Leu Val  
1 5

<210> 37  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 37  
Cys Gly Glu Arg Gly Phe Phe Tyr  
1 5

<210> 38  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 38  
Gly Val Leu Leu Ser Arg Lys  
1 5

<210> 39  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

peptide sequence

<400> 39  
Val Gly Ser Gly Val Leu Leu  
1 5

<210> 40  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 40  
Val Gly Ser Gly Val  
1 5

<210> 41  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (9)  
<223> Xaa= cysteic acid

<400> 41  
Lys Val Glu Ala Leu Tyr Leu Val Xaa Gly Glu Arg  
1 5 10

<210> 42  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 42  
Trp Arg Arg Val Glu Ala Leu Tyr Leu Val Glu Gly Glu Arg Lys  
1 5 10 15

<210> 43  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 43  
Lys Val Glu Ala Asn Tyr Leu Val Glu Gly Glu Arg Lys Lys  
1 5 10

<210> 44  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 44  
Met Leu Leu Leu  
1

<210> 45  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 45  
Asp Ala Ala His Pro Gly  
1 5

<210> 46  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 46  
Lys Val Glu Ala Asn Tyr Asp Val Glu Gly Glu Arg Lys Lys  
1 5 10

<210> 47  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 47  
Lys Val Glu Ala Asn Leu Ala Val Glu Gly Glu Arg Lys Lys  
1 5 10

<210> 48  
<211> 14

<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 48

Lys Val Glu Ala L<sup>eu</sup> Tyr Ala Val Glu Gly Glu Arg Lys Lys  
1 5 10

<210> 49

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (1)

<223> Xaa = E, G, I, D, T, cysteic acid or S

<400> 49

Xaa Ala Asn Tyr Glu Val Glu Phe  
1 5

<210> 50

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (2)

<223> Xaa= A, V, I, S, H, Y, T or F

<400> 50

Glu Xaa Asn Tyr Glu Val Glu Phe  
1 5

<210> 51

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (3)

<223> Xaa= N, L, K, S, G, T, D, A, Q, or E

<400> 51  
Glu Ala Xaa Tyr Glu Val Glu Phe  
1 5

<210> 52  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (4)  
<223> Xaa= Y, L, M, Nle, F or H

<400> 52  
Glu Ala Asn Xaa Glu Val Glu Phe  
1 5

<210> 53  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (5)  
<223> Xaa= E, A, D, M, Q, S or G

<400> 53  
Glu Ala Asn Tyr Xaa Val Glu Phe  
1 5

<210> 54  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (6)  
<223> Xaa= V, A, N, T, L, F or S

<400> 54  
Glu Ala Asn Tyr Glu Xaa Glu Phe  
1 5

<210> 55

<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (7)  
<223> Xaa= E, G, F, H, cysteic acid or S

<400> 55  
Glu Ala Asn Tyr Glu Val Xaa Phe  
1 5

<210> 56  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (8)  
<223> Xaa= F, W, G, A, H, P, G, N, S or E

<400> 56  
Glu Ala Asn Tyr Glu Val Glu Xaa  
1 5

<210> 57  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= E, G, I, D, T, cyeteic acid or S

<400> 57  
Xaa Val Leu Leu Ala Ala Gly Trp  
1 5

<210> 58  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

peptide sequence

<220>  
<221> SITE  
<222> (2)  
<223> Xaa= A, V, I, S, H, Y, T or F

<400> 58  
Gly Xaa Leu Leu Ala Ala Gly Trp  
1 5

2

<210> 59  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (3)  
<223> Xaa= N, L, K, S, G, T, D, A, Q or E

<400> 59  
Gly Val Xaa Leu Ala Ala Gly Trp  
1 5

<210> 60  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (4)  
<223> Xaa= Y, L, M, Nle, F or H

<400> 60  
Gly Val Leu Xaa Ala Ala Gly Trp  
1 5

<210> 61  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (5)  
<223> Xaa= E, A, D, M, Q, S or G

<400> 61  
Gly Val Leu Leu Xaa Ala Gly Trp  
1 5

<210> 62  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (6)  
<223> Xaa= V, A, N, T, L, F or S

<400> 62  
Gly Val Leu Leu Ala Xaa Gly Trp  
1 5

<210> 63  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (7)  
<223> Xaa= E, G, F, H, cysteic acid or S

<400> 63  
Gly Val Leu Leu Ala Ala Xaa Trp  
1 5

<210> 64  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (8)  
<223> Xaa= F, W, G, A, H, P, G, N or S

<400> 64  
Gly Val Leu Leu Ala Ala Gly Xaa  
1 5

<210> 65

<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= E, G, I, D, T, cysteic acid or S

<400> 65  
Xaa Ile Lys Met Asp Asn Phe Gly  
1 5

<210> 66  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (2)  
<223> Xaa= A, V, I, S, H, Y, T or F

<400> 66  
Ile Xaa Lys Met Asp Asn Phe Gly  
1 5

<210> 67  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (3)  
<223> Xaa= N, L, K, S, G, T, D, A, Q or E

<400> 67  
Ile Ile Xaa Met Asp Asn Phe Gly  
1 5

<210> 68  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

peptide sequence

<220>  
<221> SITE  
<222> (4)  
<223> Xaa= Y, L, M, Nle, F or H

<400> 68  
Ile Ile Lys Xaa Asp Asn Phe Gly  
1 5

<210> 69  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (5)  
<223> Xaa= E, A, D, M, Q, S or G

<400> 69

Ile Ile Lys Met Xaa Asn Phe Gly  
1 5

<210> 70  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (6)  
<223> Xaa= V, A, N,T, L, F or S

<400> 70  
Ile Ile Lys Met Asp Xaa Phe Gly  
1 5

<210> 71  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (7)

<223> Xaa= E, G, F, H, cysteic acid or S

<400> 71

Ile Ile Lys Met Asp Asn Xaa Gly  
1 5

<210> 72

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>

<221> SITE

<222> (8)

<223> Xaa= F, W, G, A, H, P, G, N or S

<400> 72

Ile Ile Lys Met Asp Asn Phe Xaa  
1 5

<210> 73

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>

<221> SITE

<222> (1)

<223> Xaa= E, G, I, D, T, cysteic acid or S

<400> 73

Xaa Ser Ser Asn Leu Glu Met Thr His Ala  
1 5 10

<210> 74

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>

<221> SITE

<222> (2)

<223> Xaa= A, V, I, S, H, Y, T or F

<400> 74

Asp Xaa Ser Asn Leu Glu Met Thr His Ala  
1 5 10

<210> 75  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (3)  
<223> Xaa= N, L, K, S, G, T, D, A, Q or E

<400> 75  
Asp Ser Xaa Asn Leu Glu Met Thr His Ala  
1 5 10

<210> 76  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (4)  
<223> Xaa= Y, L, M, Nle, F or H

<400> 76  
Asp Ser Ser Xaa Met Thr His Ala  
1 5

<210> 77  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (7)  
<223> Xaa= E, A, D, M, Q, S or G

<400> 77  
Asp Ser Ser Asn Leu Glu Xaa Thr His Ala  
1 5 10

<210> 78  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (8)

<223> Xaa= V, A, N, T, L, F or S

<400> 78

Asp Ser Ser Asn Leu Glu Met Xaa His Ala  
1 5 10

<210> 79

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (8)

<223> Xaa= E, G, F, H, cysteic acid or S

<400> 79

Asp Ser Asn Leu Glu Met Thr Xaa Ala  
1 5

<210> 80

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (9)

<223> Xaa= F, W, G, A, H, P, G, N or S

<400> 80

Asp Ser Asn Leu Glu Met Thr His Xaa  
1 5

<210> 81

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (1)

<223> Xaa= E, G, I, D, T, cysteic acid or S

<220>

<221> SITE

<222> (7)

<223> Xaa= cysteic acid

<400> 81

Xaa His Gly Phe Gln Leu Xaa His  
1 5

<210> 82

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>

<221> SITE

<222> (2)

<223> Xaa= A, V, I, S, H, Y, T or F

<220>

<221> SITE

<222> (7)

<223> Xaa= cysteic acid

<400> 82

Thr Xaa Gly Phe Gln Leu Xaa His  
1 5

<210> 83

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>

<221> SITE

<222> (3)

<223> Xaa= N, L, K, S, G, T, D, A, Q or E

<220>

<221> SITE

<222> (7)

<223> Xaa= cysteic acid

<400> 83

Thr His Xaa Phe Gln Leu Xaa His  
1 5

<210> 84

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (4)

<223> Xaa= Y, L, M, Nle, F or H

<220>

<221> SITE

<222> (7)

<223> Xaa= cysteic acid

<400> 84

Thr His Gly Xaa Gln Leu Xaa His  
1 5

<210> 85

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (5)

<223> Xaa= E, A, D, M, Q, S or G

<220>

<221> SITE

<222> (7)

<223> Xaa= cysteic acid

<400> 85

Thr His Gly Phe Xaa Leu Xaa His  
1 5

<210> 86

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (6)

<223> Xaa= V, A, N, T, L, F or S

<220>

<221> SITE

<222> (7)

<223> Xaa= cysteic acid

<400> 86  
Thr His Gly Phe Gln Xaa Xaa His  
1 5

<210> 87  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (7)  
<223> Xaa= E, G, F, H, cysteic acid or S

<400> 87  
Thr His Gly Phe Gln Leu Xaa His  
1 5

<210> 88  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (7)  
<223> Xaa= cysteic acid

<220>  
<221> SITE  
<222> (8)  
<223> Xaa= F, W, G, A, H, P, G, N or S

<400> 88  
Thr His Gly Phe Gln Leu Xaa Xaa  
1 5

<210> 89  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= E, G, I, D, T, cysteic acid or S

<400> 89

Xaa Tyr Thr His Ser Phe Ser Pro  
1 5

<210> 90  
<211> 8  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= cysteic acid

<220>  
<221> SITE  
<222> (2)  
<223> Xaa= A, V, I, S, H, Y, T or F

<400> 90  
Xaa Xaa Thr His Ser Phe Ser Pro  
1 5

<210> 91  
<211> 8  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= cysteic acid

<220>  
<221> SITE  
<222> (3)  
<223> Xaa= N, L, K, S, G, T, D, A, Q or E

<400> 91  
Xaa Tyr Xaa His Ser Phe Ser Pro  
1 5

<210> 92  
<211> 8  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence  
  
<220>  
<221> SITE

<222> (1)  
<223> Xaa= cysteic acid

<220>  
<221> SITE  
<222> (4)  
<223> Xaa= Y, L, M, Nle, F or H

<400> 92  
Xaa Tyr Thr Xaa Ser Phe Ser Pro  
1 5

<210> 93  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= cysteic acid

<220>  
<221> SITE  
<222> (5)  
<223> Xaa= E, A, D, M, Q, S or G

<400> 93  
Xaa Tyr Thr His Xaa Phe Ser Pro  
1 5

<210> 94  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= cysteic acid

<220>  
<221> SITE  
<222> (6)  
<223> Xaa= V, A, N, T, L, F or S

<400> 94  
Xaa Tyr Thr His Ser Xaa Ser Pro  
1 5

<210> 95  
<211> 8

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= cysteic acid

<220>  
<221> SITE  
<222> (7)  
<223> Xaa=E, G, F, H, cysteic acid or S

<400> 95  
Xaa Tyr Thr His Ser Phe Xaa Pro  
1 5

<210> 96  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa=cysteic acid

<220>  
<221> SITE  
<222> (8)  
<223> Xaa= F, W, G, A, H, P, G, N or S

<400> 96  
Xaa Tyr Thr His Ser Phe Ser Xaa  
1 5

<210> 97  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= E, G, I, D, T, cysteic acid or S

<220>  
<221> SITE  
<222> (7)

<223> Xaa= any amino acid

<220>

<221> SITE

<222> (4)

<223> Xaa= any amino acid

<400> 97

Xaa Thr Asp Xaa Gly Ser Xaa Gly  
1 5

<210> 98

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>

<221> SITE

<222> (2)

<223> Xaa=A, V, I, S, H, Y, T or F

<220>

<221> SITE

<222> (4)

<223> Xaa= any amino acid

<220>

<221> SITE

<222> (7)

<223> Xaa= any amino acid

<400> 98

Ser Xaa Asp Xaa Gly Ser Xaa Gly  
1 5

<210> 99

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>

<221> SITE

<222> (3)

<223> Xaa= N, L, K, S, G, T, D, A, Q or E

<220>

<221> SITE

<222> (4)

<223> Xaa= any amino acid

<220>

<221> SITE

<222> (7)

<223> Xaa= any amino acid

<400> 99

Ser Thr Xaa Xaa Gly Ser Xaa Gly  
1 5

<210> 100

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>

<221> SITE

<222> (4)

<223> Xaa= Y, L, M, Nle, F or H

<220>

<221> SITE

<222> (7)

<223> Xaa= any amino acid

<400> 100

Ser Thr Asp Xaa Gly Ser Xaa Gly  
1 5

<210> 101

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>

<221> SITE

<222> (4)

<223> Xaa= any amino acid

<220>

<221> SITE

<222> (7)

<223> Xaa= any amino acid

<220>

<221> SITE

<222> (5)

<223> Xaa= E, A, D, M, Q, S or G

<400> 101

Ser Thr Asp Xaa Xaa Ser Xaa Gly  
1 5

<210> 102

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (4)

<223> Xaa= any amino acid

<220>

<221> SITE

<222> (7)

<223> Xaa= any amino acid

<220>

<221> SITE

<222> (6)

<223> Xaa= V, A, N, T, L, F or S

<400> 102

Ser Thr Asp Xaa Gly Xaa Xaa Gly  
1 5

<210> 103

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (4)

<223> Xaa= any amino acid

<220>

<221> SITE

<222> (7)

<223> Xaa= E, G, F, H, cysteic acid or S

<400> 103

Ser Thr Asp Xaa Gly Ser Xaa Gly  
1 5

<210> 104

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (4)

<223> Xaa= any amino acid

<220>  
<221> SITE  
<222> (7)  
<223> Xaa= any amino acid

<220>  
<221> SITE  
<222> (8)  
<223> Xaa= F, W, G, A, H, P, G, N or S

<400> 104  
Ser Thr Asp Xaa Gly Ser Xaa Xaa  
1 5

<210> 105  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= E, G, I, D, T, cysteic acid or S

<220>  
<221> SITE  
<222> (4)..(7)  
<223> Xaa= any amino acid

<400> 105

Xaa Phe Ala Xaa Xaa Xaa Xaa Asn  
1 5

<210> 106  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= any amino acid

<220>  
<221> SITE  
<222> (2)  
<223> Xaa= A, V, I, S, H, Y, T or F

<220>  
<221> SITE  
<222> (4)..(7)  
<223> Xaa= any amino acid

```
<400> 106
Xaa Xaa Ala Xaa Xaa Xaa Xaa Asn
1 5

<210> 107
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
      peptide sequence

<220>
<221> SITE
<222> (1)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (3)
<223> Xaa= N, L, K, S, G, T, D, A, Q or E

<220>
<221> SITE
<222> (4)..(7)
<223> Xaa= any amino acid

<400> 107
Xaa Phe Xaa Xaa Xaa Xaa Xaa Asn
1 5

<210> 108
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
      peptide sequence

<220>
<221> SITE
<222> (1)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (4)
<223> Xaa= Y, L, M, Nle, F or H

<220>
<221> SITE
<222> (5)..(7)
<223> Xaa= any amino acid

<400> 108
Xaa Phe Ala Xaa Xaa Xaa Xaa Xaa Asn
1 5
```

```
<210> 109
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
      peptide sequence

<220>
<221> SITE
<222> (1)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (4)
<223> Xaa = any amino acid

<220>
<221> SITE
<222> (5)
<223> Xaa= E, A, D, M, Q, S or G

<220>
<221> SITE
<222> (6)..(7)
<223> Xaa= any amino acid

<400> 109
Xaa Phe Ala Xaa Xaa Xaa Xaa Asn
    1           5

<210> 110
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
      peptide sequence

<220>
<221> SITE
<222> (1)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (4)..(5)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (6)
<223> Xaa= V, A, N, T, L, F or S

<220>
<221> SITE
<222> (7)
<223> Xaa= any amino acid
```

<400> 110  
Xaa Phe Ala Xaa Xaa Xaa Xaa Asn  
1 5

<210> 111  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= any amino acid

<220>  
<221> SITE  
<222> (4)..(6)  
<223> Xaa= any amino acid

<220>  
<221> SITE  
<222> (7)  
<223> Xaa= E, G, F, H, cysteic acid or S

<400> 111  
Xaa Phe Ala Xaa Xaa Xaa Xaa Asn  
1 5

<210> 112  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<220>  
<221> SITE  
<222> (1)  
<223> Xaa= any amino acid

<220>  
<221> SITE  
<222> (4)..(7)  
<223> Xaa= any amino acid

<220>  
<221> SITE  
<222> (8)  
<223> Xaa= F, W, G, A, H, P, G, N or S

<400> 112  
Xaa Phe Ala Xaa Xaa Xaa Xaa Xaa  
1 5

<210> 113  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 113  
Glu Val Asn Leu Asp Ala Glu Phe Arg  
1 5

<210> 114  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 114  
Asp Tyr Lys Asp Asp Asp Lys  
1 5

<210> 115  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 115  
Ala Cys Gly Ser Glu Ser Met Asp Ser Gly Ile Ser Leu Asp Asn Lys  
1 5 10 15

Trp

<210> 116  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 116  
Trp Lys Lys Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Lys  
1 5 10 15

Lys

<210> 117

<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 117  
Ala Asn Leu Ser Thr Phe Ala Gln Pro Arg Arg  
1 5 10

<210> 118  
<211> 22  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 118  
Tyr Arg Tyr Gln Ser His Asp Tyr Ala Phe Ser Ser Val Glu Lys Leu  
1 5 10 15  
Leu His Leu Gly Gly Cys  
20

<210> 119  
<211> 22  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 119  
Tyr Arg Tyr Gln Ser His Asp Tyr Ala Phe Ser Ser Val Glu Lys Leu  
1 5 10 15  
Leu His Leu Gly Gly Cys  
20

<210> 120  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 120  
Lys Thr Ile Thr Leu Glu Val Glu Pro Ser  
1 5 10

<210> 121  
<211> 12

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (9)  
<223> Xaa= cysteic acid

<400> 121  
Val Glu Ala Leu Tyr Leu Val Cys Xaa Gly Glu Arg  
1 5 10

<210> 122  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 122  
Val Glu Ala Leu Tyr Leu Val Glu Gly Glu Arg  
1 5 10

<210> 123  
<211> 363  
<212> PRT  
<213> Homo sapiens

<220>  
<223> galactosyltransferase

<400> 123  
Met Ala Ser Lys Ser Trp Leu Asn Phe Leu Thr Phe Leu Cys Gly Ser  
1 5 10 15

Ala Ile Gly Phe Leu Leu Cys Ser Gln Leu Phe Ser Ile Leu Leu Gly  
20 25 30

Glu Lys Val Asp Thr Gln Pro Asn Val Leu His Asn Asp Pro His Ala  
35 40 45

Arg His Ser Asp Asp Asn Gly Gln Asn His Leu Glu Gly Gln Met Asn  
50 55 60

Phe Asn Ala Asp Ser Ser Gln His Lys Asp Glu Asn Thr Asp Ile Ala  
65 70 75 80

Glu Asn Leu Tyr Gln Lys Val Arg Ile Leu Cys Trp Val Met Thr Gly  
85 90 95

Pro Gln Asn Leu Glu Lys Lys Ala Lys His Val Lys Ala Thr Trp Ala  
100 105 110

Gln Arg Cys Asn Lys Val Leu Phe Met Ser Ser Glu Glu Asn Lys Asp  
115 120 125

Phe Pro Ala Val Gly Leu Lys Thr Lys Glu Gly Arg Asp Gln Leu Tyr  
130 135 140

Trp Lys Thr Ile Lys Ala Phe Gln Tyr Val His Glu His Tyr Leu Glu  
145 150 155 160

Asp Ala Asp Trp Phe Leu Lys Ala Asp Asp Asp Thr Tyr Val Ile Leu  
165 170 175

Asp Asn Leu Arg Trp Leu Leu Ser Lys Tyr Asp Pro Glu Glu Pro Ile  
180 185 190

Tyr Phe Gly Arg Arg Phe Lys Pro Tyr Val Lys Gln Gly Tyr Met Ser  
195 200 205

Gly Gly Ala Gly Tyr Val Leu Ser Lys Glu Ala Leu Lys Arg Phe Val  
210 215 220

Asp Ala Phe Lys Thr Asp Lys Cys Thr His Ser Ser Ser Ile Glu Asp  
225 230 235 240

Leu Ala Leu Gly Arg Cys Met Glu Ile Met Asn Val Glu Ala Gly Asp  
245 250 255

Ser Arg Asp Thr Ile Gly Lys Glu Thr Phe His Pro Phe Val Pro Glu  
260 265 270

His His Leu Ile Lys Gly Tyr Leu Pro Arg Thr Phe Trp Tyr Trp Asn  
275 280 285

Tyr Asn Tyr Tyr Pro Pro Val Glu Gly Pro Gly Cys Cys Ser Asp Leu  
290 295 300

Ala Val Ser Phe His Tyr Val Asp Ser Thr Thr Met Tyr Glu Leu Glu  
305 310 315 320

Tyr Leu Val Tyr His Leu Arg Pro Tyr Gly Tyr Leu Tyr Arg Tyr Gln  
325 330 335

Pro Thr Leu Pro Glu Arg Ile Leu Lys Glu Ile Ser Gln Ala Asn Lys  
340 345 350

Asn Glu Asp Thr Lys Val Lys Leu Gly Asn Pro  
355 360

<210> 124

<211> 405

<212> PRT

<213> Homo sapiens

<220>

<223> Homo sapiens sialyltransferase 1

<400> 124

Ile His Thr Asn Leu Lys Lys Phe Ser Cys Cys Val Leu Val Phe  
1 5 10 15

Leu Leu Phe Ala Val Ile Cys Val Trp Lys Glu Lys Lys Gly Ser  
20 25 30

Tyr Tyr Asp Ser Phe Lys Leu Gln Thr Lys Glu Phe Gln Val Leu Lys

35

40

45

Ser Leu Gly Lys Leu Ala Met Gly Ser Asp Ser Gln Ser Val Ser Ser  
50 55 60

Ser Ser Thr Gln Asp Pro His Arg Gly Arg Gln Thr Leu Gly Ser Leu  
65 70 75 80

Arg Gly Leu Ala Lys Ala Lys Pro Glu Ala Ser Phe Gln Val Trp Asn  
85 90 95

Lys Asp Ser Ser Lys Asn Leu Ile Pro Arg Leu Gln Lys Ile Trp  
100 105 110

Lys Asn Tyr Leu Ser Met Asn Lys Tyr Lys Val Ser Tyr Lys Gly Pro  
115 120 125

Gly Pro Gly Ile Lys Phe Ser Ala Glu Ala Leu Arg Cys His Leu Arg  
130 135 140

Asp His Val Asn Val Ser Met Val Glu Val Thr Asp Phe Pro Phe Asn  
145 150 155 160

Thr Ser Glu Trp Glu Gly Tyr Leu Pro Lys Glu Ser Ile Arg Thr Lys  
165 170 175

Ala Gly Pro Trp Gly Arg Cys Ala Val Val Ser Ser Ala Gly Ser Leu  
180 185 190

Lys Ser Ser Gln Leu Gly Arg Glu Ile Asp Asp His Asp Ala Val Leu  
195 200 205

Arg Phe Asn Gly Ala Pro Thr Ala Asn Phe Gln Gln Asp Val Gly Thr  
210 215 220

Lys Thr Thr Ile Arg Leu Met Asn Ser Gln Leu Val Thr Thr Glu Lys  
225 230 235 240

Arg Phe Leu Lys Asp Ser Leu Tyr Asn Glu Gly Ile Leu Ile Val Trp  
245 250 255

Asp Pro Ser Val Tyr His Ser Asp Ile Pro Lys Trp Tyr Gln Asn Pro  
260 265 270

Asp Tyr Asn Phe Phe Asn Asn Tyr Lys Thr Tyr Arg Lys Leu His Pro  
275 280 285

Asn Gln Pro Phe Tyr Ile Leu Lys Pro Gln Met Pro Trp Glu Leu Trp  
290 295 300

Asp Ile Leu Gln Glu Ile Ser Pro Glu Glu Ile Gln Pro Asn Pro Pro  
305 310 315 320

Ser Ser Gly Met Leu Gly Ile Ile Ile Met Met Thr Leu Cys Asp Gln  
325 330 335

Val Asp Ile Tyr Glu Phe Leu Pro Ser Lys Arg Lys Thr Asp Val Cys  
340 345 350

Tyr Tyr Tyr Gln Lys Phe Phe Asp Ser Ala Cys Thr Met Gly Ala Tyr  
355 360 365

His Pro Leu Leu Tyr Glu Lys Asn Leu Val Lys His Leu Asn Gln Gly

370

375

380

Thr Asp Glu Asp Ile Tyr Leu Leu Gly Lys Ala Thr Leu Pro Gly Phe  
385 390 395 400

Arg Thr Ile His Cys  
405

<210> 125

<211> 518

<212> PRT

<213> Homo sapiens

<220>

<223> Homo sapiens aspartyl protease 1

<400> 125

Met Gly Ala Leu Ala Arg Ala Leu Leu Leu Pro Leu Leu Ala Gln Trp  
1 5 10 15

Leu Leu Arg Ala Ala Pro Glu Leu Ala Pro Ala Pro Phe Thr Leu Pro  
20 25 30

Leu Arg Val Ala Ala Ala Thr Asn Arg Val Val Ala Pro Thr Pro Gly  
35 40 45

Pro Gly Thr Pro Ala Glu Arg His Ala Asp Gly Leu Ala Leu Ala Leu  
50 55 60

Glu Pro Ala Leu Ala Ser Pro Ala Gly Ala Ala Asn Phe Leu Ala Met  
65 70 75 80

Val Asp Asn Leu Gln Gly Asp Ser Gly Arg Gly Tyr Tyr Leu Glu Met  
85 90 95

Leu Ile Gly Thr Pro Pro Gln Lys Leu Gln Ile Leu Val Asp Thr Gly  
100 105 110

Ser Ser Asn Phe Ala Val Ala Gly Thr Pro His Ser Tyr Ile Asp Thr  
115 120 125

Tyr Phe Asp Thr Glu Arg Ser Ser Thr Tyr Arg Ser Lys Gly Phe Asp  
130 135 140

Val Thr Val Lys Tyr Thr Gln Gly Ser Trp Thr Gly Phe Val Gly Glu  
145 150 155 160

Asp Leu Val Thr Ile Pro Lys Gly Phe Asn Thr Ser Phe Leu Val Asn  
165 170 175

Ile Ala Thr Ile Phe Glu Ser Glu Asn Phe Phe Leu Pro Gly Ile Lys  
180 185 190

Trp Asn Gly Ile Leu Gly Leu Ala Tyr Ala Thr Leu Ala Lys Pro Ser  
195 200 205

Ser Ser Leu Glu Thr Phe Phe Asp Ser Leu Val Thr Gln Ala Asn Ile  
210 215 220

Pro Asn Val Phe Ser Met Gln Met Cys Gly Ala Gly Leu Pro Val Ala  
225 230 235 240

Gly Ser Gly Thr Asn Gly Gly Ser Leu Val Leu Gly Gly Ile Glu Pro  
245 250 255

Ser Leu Tyr Lys Gly Asp Ile Trp Tyr Thr Pro Ile Lys Glu Glu Trp  
260 265 270

Tyr Tyr Gln Ile Glu Ile Leu Lys Leu Glu Ile Gly Gly Gln Ser Leu  
275 280 285

Asn Leu Asp Cys Arg Glu Tyr Asn Ala Asp Lys Ala Ile Val Asp Ser  
290 295 300

Gly Thr Thr Leu Leu Arg Leu Pro Gln Lys Val Phe Asp Ala Val Val  
305 310 315 320

Glu Ala Val Ala Arg Ala Ser Leu Ile Pro Glu Phe Ser Asp Gly Phe  
325 330 335

Trp Thr Gly Ser Gln Leu Ala Cys Trp Thr Asn Ser Glu Thr Pro Trp  
340 345 350

Ser Tyr Phe Pro Lys Ile Ser Ile Tyr Leu Arg Asp Glu Asn Ser Ser  
355 360 365

Arg Ser Phe Arg Ile Thr Ile Leu Pro Gln Leu Tyr Ile Gln Pro Met  
370 375 380

Met Gly Ala Gly Leu Asn Tyr Glu Cys Tyr Arg Phe Gly Ile Ser Pro  
385 390 395 400

Ser Thr Asn Ala Leu Val Ile Gly Ala Thr Val Met Glu Gly Phe Tyr  
405 410 415

Val Ile Phe Asp Arg Ala Gln Lys Arg Val Gly Phe Ala Ala Ser Pro  
420 425 430

Cys Ala Glu Ile Ala Gly Ala Ala Val Ser Glu Ile Ser Gly Pro Phe  
435 440 445

Ser Thr Glu Asp Val Ala Ser Asn Cys Val Pro Ala Gln Ser Leu Ser  
450 455 460

Glu Pro Ile Leu Trp Ile Val Ser Tyr Ala Leu Met Ser Val Cys Gly  
465 470 475 480

Ala Ile Leu Leu Val Leu Ile Val Leu Leu Leu Pro Phe Arg Cys  
485 490 495

Gln Arg Arg Pro Arg Asp Pro Glu Val Val Asn Asp Glu Ser Ser Leu  
500 505 510

Val Arg His Arg Trp Lys  
515

<210> 126  
<211> 255  
<212> PRT  
<213> Homo sapiens

<220>  
<223> Homo sapiens syntaxin 6

<400> 126  
Met Ser Met Glu Asp Pro Phe Phe Val Val Lys Gly Glu Val Gln Lys  
1 5 10 15  
Ala Val Asn Thr Ala Gln Gly Leu Phe Gln Arg Trp Thr Glu Leu Leu  
20 25 30  
Gln Asp Pro Ser Thr Ala Thr Arg Glu Glu Ile Asp Trp Thr Thr Asn  
35 40 45  
Glu Leu Arg Asn Asn Leu Arg Ser Ile Glu Trp Asp Leu Glu Asp Leu  
50 55 60  
Asp Glu Thr Ile Ser Ile Val Glu Ala Asn Pro Arg Lys Phe Asn Leu  
65 70 75 80  
Asp Ala Thr Glu Leu Ser Ile Arg Lys Ala Phe Ile Thr Ser Thr Arg  
85 90 95  
Gln Val Val Arg Asp Met Lys Asp Gln Met Ser Thr Ser Val Gln  
100 105 110  
Ala Leu Ala Glu Arg Lys Asn Arg Gln Ala Leu Leu Gly Asp Ser Gly  
115 120 125  
Ser Gln Asn Trp Ser Thr Gly Thr Thr Asp Lys Tyr Gly Arg Leu Asp  
130 135 140  
Arg Glu Leu Gln Arg Ala Asn Ser His Phe Ile Glu Glu Gln Gln Ala  
145 150 155 160  
Gln Gln Gln Leu Ile Val Glu Gln Gln Asp Glu Gln Leu Glu Leu Val  
165 170 175  
Ser Gly Ser Ile Gly Val Leu Lys Asn Met Ser Gln Arg Ile Gly Gly  
180 185 190  
Glu Leu Glu Glu Gln Ala Val Met Leu Glu Asp Phe Ser His Glu Leu  
195 200 205  
Glu Ser Thr Gln Ser Arg Leu Asp Asn Val Met Lys Lys Leu Ala Lys  
210 215 220  
Val Ser His Met Thr Ser Asp Arg Arg Gln Trp Cys Ala Ile Ala Ile  
225 230 235 240  
Leu Phe Ala Val Leu Leu Val Val Leu Ile Leu Phe Leu Val Leu  
245 250 255

<210> 127  
<211> 1728  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: nucleic acid  
encoding recombinant fusion protein

<400> 127  
atgctgctgc tgctgctgct gctgggcctg aggctacagc tctccctggg catcatccca 60  
gttgaggagg agaaccggaa cttctggAAC cgcgaggcag ccgaggccct gggtgccgccc 120  
aagaagctgc agcctgcaca gacagccgcc aagaacctca tcatcttcct gggcgatggg 180

atgggggtgt ctacgggtac agctgccagg atcctaaaag ggcagaagaa ggacaaactg 240  
gggcctgaga taccctggc catggaccgc ttcccatatg tggctctgtc caagacatac 300  
aatgttagaca aacatgtgcc agacagtggc gccacagcca cggcctaccc gtgcgggtc 360  
aaggggcaact tccagaccat tggcttgagt gcagccgccc gcttaacca gtgcaacacg 420  
acacgcggca acgaggtcat ctccgtatg aatcgggcca agaaagcagg gaagtcaatg 480  
ggagtggtaa ccaccacacg agtgcagcac gcctcgccag ccggcaccta cgcccacacg 540  
gtgaaccgca actggtaactc ggacgcccac gtgcctgcct ccggccgcca ggaggggtgc 600  
caggacatcg ctacgcagct catctccaaatg atggacattg acgtgatcct aggtggaggc 660  
cgaaagtaca tggttccat gggaaacccca gaccctgagt acccagatga ctacagccaa 720  
ggtgggacca ggctggacgg gaagaatctg gtgcaggaat ggctggcgaa ggcgcagggt 780  
gcccggtatg tggaaaccg cactgagtc atgcaggctt ccctggaccc gtctgtgacc 840  
catctcatgg gtctcttga gcctggagac atgaaatacg agatccaccc agactccaca 900  
ctggaccctt ccctgtatgg gatgacagag gctgcctgc gcctgctgag caggaacccc 960  
cgccggttct tcctcttcgt ggagggtgtt cgcatcgacc atggcatca taaaaggcagg 1020  
gcttaccggg cactgactga gacgatcatg ttgcacgacg ccattgagag ggcgggcccag 1080  
ctcaccagcg aggaggacac gctgagcctc gtcaactgccc accactccca cgtttctcc 1140  
ttcggaggat accccctgcg agggagctcc atttcggggc tggccctgg caaggcccg 1200  
gacaggaagg cctacacggc cctcctatac ggaaacggc caggctatgt gctcaaggac 1260  
ggcgcggc cggatgttac cgagagcgag agcgggagcc ccgagtatcg gcagcagtca 1320  
gcagtgcggcc tggacgaaga gacccacca ggcgaggacg tggcgggtt cgcgcgcggc 1380  
ccgcaggcgc acctgggtca cggcgtgcag gaggagaccc tcatagcga cgtcatggcc 1440  
ttcgcgcct gcctggagcc ctacaccgc tgacactgg cgcgcgcgc cggcaccacc 1500  
gacgcgcgc acccaggtaa ctatgaagtt gaattccgaa gagcaacta ctagagggtt 1560  
gaaagaggat tcttctacac tccaaaggca ctctacctcg tagagggtga aagaggattc 1620  
ttctacacta gtctcatgac catagcctat gtcatggctg ccatctgcgc cctttcatg 1680  
ctgccactct gcctcatggt ggactacaag gatgatgtg acaagtag 1728

<210> 128

<211> 575

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recombinant  
fusion protein sequence

<400> 128

Met Leu Leu Leu Leu Leu Leu Gly Leu Arg Leu Gln Leu Ser Leu  
1 5 10 15

Gly Ile Ile Pro Val Glu Glu Glu Asn Pro Asp Phe Trp Asn Arg Glu  
20 25 30

Ala Ala Glu Ala Leu Gly Ala Ala Lys Lys Leu Gln Pro Ala Gln Thr  
35 40 45

Ala Ala Lys Asn Leu Ile Ile Phe Leu Gly Asp Gly Met Gly Val Ser  
50 55 60

Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln Lys Lys Asp Lys Leu  
65 70 75 80

Gly Pro Glu Ile Pro Leu Ala Met Asp Arg Phe Pro Tyr Val Ala Leu  
85 90 95

Ser Lys Thr Tyr Asn Val Asp Lys His Val Pro Asp Ser Gly Ala Thr  
100 105 110

Ala Thr Ala Tyr Leu Cys Gly Val Lys Gly Asn Phe Gln Thr Ile Gly  
115 120 125

Leu Ser Ala Ala Ala Arg Phe Asn Gln Cys Asn Thr Thr Arg Gly Asn  
130 135 140

Glu Val Ile Ser Val Met Asn Arg Ala Lys Lys Ala Gly Lys Ser Val  
145 150 155 160

Gly Val Val Thr Thr Arg Val Gln His Ala Ser Pro Ala Gly Thr  
165 170 175

Tyr Ala His Thr Val Asn Arg Asn Trp Tyr Ser Asp Ala Asp Val Pro  
180 185 190

Ala Ser Ala Arg Gln Glu Gly Cys Gln Asp Ile Ala Thr Gln Leu Ile  
195 200 205

Ser Asn Met Asp Ile Asp Val Ile Leu Gly Gly Arg Lys Tyr Met  
210 215 220

Phe Pro Met Gly Thr Pro Asp Pro Glu Tyr Pro Asp Asp Tyr Ser Gln  
225 230 235 240

Gly Gly Thr Arg Leu Asp Gly Lys Asn Leu Val Gln Glu Trp Leu Ala  
245 250 255

Lys Arg Gln Gly Ala Arg Tyr Val Trp Asn Arg Thr Glu Leu Met Gln  
260 265 270

Ala Ser Leu Asp Pro Ser Val Thr His Leu Met Gly Leu Phe Glu Pro  
275 280 285

Gly Asp Met Lys Tyr Glu Ile His Arg Asp Ser Thr Leu Asp Pro Ser  
290 295 300

Leu Met Glu Met Thr Glu Ala Ala Leu Arg Leu Leu Ser Arg Asn Pro  
305 310 315 320

Arg Gly Phe Phe Leu Phe Val Glu Gly Gly Arg Ile Asp His Gly His  
325 330 335

His Glu Ser Arg Ala Tyr Arg Ala Leu Thr Glu Thr Ile Met Phe Asp  
340 345 350

Asp Ala Ile Glu Arg Ala Gly Gln Leu Thr Ser Glu Glu Asp Thr Leu  
355 360 365

Ser Leu Val Thr Ala Asp His Ser His Val Phe Ser Phe Gly Gly Tyr  
370 375 380

Pro Leu Arg Gly Ser Ser Ile Phe Gly Leu Ala Pro Gly Lys Ala Arg  
385 390 395 400

Asp Arg Lys Ala Tyr Thr Val Leu Leu Tyr Gly Asn Gly Pro Gly Tyr  
405 410 415

Val Leu Lys Asp Gly Ala Arg Pro Asp Val Thr Glu Ser Glu Ser Gly  
420 425 430

Ser Pro Glu Tyr Arg Gln Gln Ser Ala Val Pro Leu Asp Glu Glu Thr  
435 440 445

His Ala Gly Glu Asp Val Ala Val Phe Ala Arg Gly Pro Gln Ala His  
450 455 460

Leu Val His Gly Val Gln Glu Gln Thr Phe Ile Ala His Val Met Ala  
465 470 475 480

Phe Ala Ala Cys Leu Glu Pro Tyr Thr Ala Cys Asp Leu Ala Pro Pro  
485 490 495

Ala Gly Thr Thr Asp Ala Ala His Pro Gly Asn Tyr Glu Val Glu Pro  
500 505 510

Arg Arg Ala Leu Tyr Val Glu Gly Glu Arg Gly Phe Phe Tyr Thr Pro  
515 520 525

Lys Ala Leu Tyr Leu Val Glu Gly Glu Arg Gly Phe Phe Tyr Thr Ser  
530 535 540

Leu Met Thr Ile Ala Tyr Val Met Ala Ala Ile Cys Ala Leu Phe Met  
545 550 555 560

Leu Pro Leu Cys Leu Met Val Asp Tyr Lys Asp Asp Asp Asp Lys  
565 570 575

<210> 129  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 129  
Lys Met Asp Ala Glu  
1 5

<210> 130  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 130  
Gly Arg Arg Gly Ser  
1 5

<210> 131  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 131  
Val Glu Ala Asn Tyr Glu Val Glu Gly Glu  
1 5 10

<210> 132  
<211> 10

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 132  
Val Glu Ala Asn Tyr Ala Val Glu Gly Glu  
1 5 10

<210> 133  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 133  
Lys Thr Ile Asn Leu Glu Val Glu Pro Ser  
1 5 10

<210> 134  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> MOD\_RES  
<222> (5)  
<223> Nle

<400> 134  
Lys Thr Ile Asn Xaa Glu Val Glu Pro Ser  
1 5 10

<210> 135  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> MOD\_RES  
<222> (5)  
<223> Nle

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 135  
Lys Thr Ile Asn Xaa Glu Val Asp Pro Ser

1 5 10

<210> 136  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> MOD\_RES  
<222> (5)  
<223> Nle

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 136  
Lys Thr Ile Asn Xaa Asp Val Asp Pro Ser  
1 5 10

<210> 137  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 137  
Lys Thr Ile Ser Leu Asp Val Glu Pro Ser  
1 5 10

<210> 138  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 138  
Lys Thr Ile Ser Leu Asp Val Asp Pro Ser  
1 5 10

<210> 139  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 139  
Lys Met Asp Ala  
1

<210> 140  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 140  
Ser Tyr Glu Val  
1

<210> 141  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 141  
Ser Glu Val Ser Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 142  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 142  
Asn Leu Asp Ala  
1

<210> 143  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 143  
Ser Glu Val Ser Tyr Asp Ala Glu Phe Arg  
1 5 10

<210> 144  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

peptide sequence

<400> 144  
Ser Glu Val Ser Tyr Glu Ala Glu Phe Arg  
1 5 10

<210> 145  
<211> 25  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 145  
Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser  
1 5 10 15  
Glu Val Ser Tyr Glu Val Glu Phe Arg  
20 25

<210> 146  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 146  
Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Val Ser Tyr Glu  
1 5 10 15  
Val Glu Phe Arg  
20

<210> 147  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 147  
Lys Thr Glu Glu Ile Ser Glu Val Ser Tyr Glu Val Glu Phe Arg  
1 5 10 15

<210> 148  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 148  
Thr Glu Val Ser Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 149  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 149  
Ser Glu Val Asp Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 150  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 150  
Thr Glu Val Asp Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 151  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 151  
Thr Glu Ile Asp Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 152  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 152  
Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 153  
<211> 10

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 153  
Ser Glu Ile Asp Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 154  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (11)  
<223> Xaa=tryptophan

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 154  
Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
1 5 10

<210> 155  
<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (16)  
<223> Xaa=tryptophan

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 155  
Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa  
1 5 10 15

Lys Lys

<210> 156  
<211> 23  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (21)  
<223> Xaa=tryptophan

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 156

Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu Val  
1 5 10 15

Glu Phe Arg Xaa Lys Lys  
20

<210> 157

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (26)

<223> Xaa=tryptophan

<400> 157

Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser  
1 5 10 15

Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
20 25

<210> 158

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE

<222> (11)

<223> Xaa=tryptophan

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 158

Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
1 5 10

<210> 159

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (16)

<223> Xaa=tryptophan

<400> 159

Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg  
1 5 10 15

Xaa Lys Lys

<210> 160

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE

<222> (21)

<223> Xaa=tryptophan

<220>

<223> Description of Artificial Sequence: synthetic  
peptide

<400> 160

Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr  
1 5 10 15

Glu Val Glu Phe Arg Xaa Lys Lys  
20

<210> 161

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE

<222> (26)

<223> Xaa=tryptophan

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 161

Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile  
1 5 10 15

Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
20 25

<210> 162

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE

<222> (11)  
<223> Xaa=oregon green

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 162  
Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
1 5 10

<210> 163  
<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (16)  
<223> Xaa=oregon green

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 163  
Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa  
1 5 10 15

Lys Lys

<210> 164  
<211> 23  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (21)  
<223> Xaa=oregon green

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 164  
Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu  
1 5 10 15  
Val Glu Phe Arg Xaa Lys Lys  
20

<210> 165  
<211> 28  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE

<222> (26)

<223> Xaa=oregon green

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 165

Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser  
1 5 10 15

Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
20 25

<210> 166

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE

<222> (11)

<223> Xaa=oregon green

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 166

Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
1 5 10

<210> 167

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE

<222> (16)

<223> Xaa=oregon green

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 167

Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg  
1 5 10 15

Xaa Lys Lys

<210> 168

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE

<222> (21)

<223> Xaa=oregon green

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 168

Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr  
1 5 10 15

Glu Val Glu Phe Arg Xaa Lys Lys  
20

<210> 169

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE

<222> (26)

<223> Xaa=oregon green

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 169

Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile  
1 5 10 15

Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
20 25

<210> 170

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 170

Ser Glu Val Asn Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 171

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic primer for site-directed mutagenesis of APP

<400> 171

gagatctctg aaatttagtta tgaagttagaa ttccgacatg actcagg

<210> 172  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for site-directed mutagenesis of APP

<400> 172  
tgagtcatgt cggaattcta cttcataact aatttcagag atctcctc 48

<210> 173  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for site-directed mutagenesis of APP

<400> 173  
gagatctctg aaagtagtta tgaagtagaa ttccgacatg actcagg 47

<210> 174  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for site-directed mutagenesis of APP

<400> 174  
tgagtcatgt cggaattcta cttcataact actttcagag atctcctc 48

<210> 175  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for site-directed mutagenesis of APP

<400> 175  
gagatctctg aaatttagtta tgaagcagaa ttccgacatg actcagg 47

<210> 176  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for site-directed mutagenesis of APP

<400> 176  
tgagtcatgt cggaattctg cttcataact aatttcagag atctcctc 48

<210> 177  
<211> 5  
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 177

Val Ser Tyr Glu Val  
1 5

<210> 178

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 178

Val Ser Tyr Asp Ala  
1 5

<210> 179

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 179

Ile Ser Tyr Glu Val  
1 5

<210> 180

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 180

Val Lys Met Asp Ala  
1 5

<210> 181

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic primer for generating mutant construct named MBPC125-SYEV

<400> 181  
gacatctctg aagtgagttt ttaggcagaa ttccgacatg actcagg 47

<210> 182  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for generating mutant construct named  
MBPC125-SYEV

<400> 182  
tgagtcatgt cggaattctg cctaataact cacttcagag atctcctc 48

<210> 183  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 183  
Lys Lys Ser Tyr Glu Val  
1 5

<210> 184  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 184  
Val Glu Ala Asn Tyr Glu Val Glu Gly Glu  
1 5 10

<210> 185  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 185  
Val Glu Ala Asn Tyr Ala Val Glu Gly Glu  
1 5 10

<210> 186  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 186  
Asp Tyr Lys Asp Asp Asp Asp Lys  
1 5

<210> 187  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 187  
Ser Tyr Glu Ala  
1

<210> 188  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 188  
Ser Tyr Ala Val  
1

<210> 189  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 189  
Val Ser Tyr Glu Ala  
1 5

<210> 190  
<211> 13  
<212> PRT  
<213> Artificial sequence

<220>  
<223> Description of artificial sequence: synthetic peptide sequence

<400> 190

Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Trp Lys Lys  
1 5 10

<210> 191

<211> 23

<212> PRT

<213> Artificial sequence

<220>

<223> Description of artificial sequence: synthetic peptide sequence

<400> 191

Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu  
1 5 10 15

Val Glu Phe Arg Trp Lys Lys  
20

<210> 192

<211> 15

<212> PRT

<213> Artificial sequence

<220>

<223> Description of artificial sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (1)..(1)

<223> amino acid at position 1 is biotinylated

<220>

<221> SITE

<222> (14)..(14)

<223> cys at position 14 is derivatized with an oregon green

<400> 192

Lys Glu Ile Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Lys Lys  
1 5 10 15

<210> 193

<211> 22

<212> PRT

<213> Artificial sequence

<220>

<223> Description of artificial sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (1)..(1)

<223> amino acid at position 1 is biotinylated

<220>

<221> SITE

<222> (21)..(21)

<223> cys at position 21 is derivatized with an oregon green

<400> 193

Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu  
1 5 10 15

Val Glu Phe Arg Lys Lys  
20

<210> 194

<211> 6806

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence: synthetic DNA sequence

<400> 194

ccgacaccat cgaatggcg	aaaaccttc	gcggtatggc	atgatacg	ccggaagaga	60
gtcaattcag ggtggtgaat	gtgaaaccag	taacgttata	cgatgtcg	gagtatgccg	120
gtgtcttta tcagaccgtt	tcccgcgtgg	tgaaccaggc	cagccacgtt	tctgcgaaaa	180
cgcggaaaaa agtggaaagcg	gcatggcg	agctgaatta	cattccaaac	cgcgtggcac	240
aacaactggc	ggcacaacag	tcgttgctga	ttggcgttgc	cacctccagt	300
acgcgcg	gcaaaattgtc	gcggcgat	aatctcg	cgatcaactg	360
tggtggtgtc	gatggtagaa	cgaagcggcg	tcaagcctg	taaagcggcg	420
ttctcg	acgcgtcagt	gggctgatca	ttaactatcc	gctggatgac	480
ttgctgtg	agctgcctgc	actaatgtt	cggcg	tcttgatgtc	540
cacccatcaa	cagtattatt	ttctccatg	aagacgg	gcgactggc	600
tggtcgcatt	gggtcaccag	caaatcg	tgttagcggg	cccatta	660
cgcgtctgc	tctggctggc	tggcataaa	atctca	caatcaaatt	720
cggAACGGG	aggcgactgg	agtgc	ccgtttca	acaaaccatg	780
atgagggc	atcgatgc	ttgccaac	tcagatggcg	ctggcg	840
tgcgcgc	taccgagtcc	gggctgc	ttgg	tatctcg	900
acgataccg	agacagctca	tgttat	cgcgtt	caccatcaa	960
gcctgctgg	gcaaaacc	gtggacc	tgctg	ctctcagg	1020
agggcaatca	gctgttgc	gtctca	tgaaa	aaccacc	1080
cgc	ctctccccgc	gcgttggcc	attcatt	gcagctgg	1140
cccga	aagcggcag	tgagcg	gcaatt	tgagttag	1200
gcacaatt	catgttgac	agcttat	cgactgc	gtgcac	1260
tcaggc	atcgaaag	gtggatgg	tgtcagg	gtaaat	1320
tgtcg	ctcaa	ggcgcact	cg	tgtt	1380
ctggca	aaatg	agctgtt	aat	cgatcg	1440
attgtg	gataaca	tcacacag	aa	ccagt	1500
gcactt	cacc	atagattat	aaa	actga	1560
attaacgg	ataaagg	taacgg	gctga	gtaagaa	1620
accgg	attaa	agtcacc	tgagcat	aa	ggact
gcggca	actg	gcatggccc	tgacatt	aa	ggatct
gctca	atctg	tgaaatc	ccggaca	aa	ggatcc
ccgtt	ttac	ggatgccc	acgttac	ggcaag	1860
gaagcg	ttat	cgat	ttaccc	ttgcgtgtt	1920
cgctg	attt	taacaa	atcg	ccgcaaa	

gagatccgg	cgctggataa	agaactgaaa	gcgaaaggta	agagcgcgct	gatgttcaac	1980
ctgcaagaac	cgtacttcac	ctggccgctg	attgctgctg	acgggggtta	tgcgttcaag	2040
tatgaaaacg	gcaagtaacga	cattaaagac	gtggcgtgg	ataacgctgg	cgcgaaagcg	2100
ggctgaccc	tcctgggtga	cctgattaaa	aacaaacaca	tgaatgcaga	caccgattac	2160
tccatcgac	aagctgcctt	taataaaggc	gaaacagcga	tgaccatcaa	cggcccgtgg	2220
gcatggtcca	acatcgacac	cagcaaagtg	aattatggtg	taacggtaact	gccgaccc	2280
aagggtcaac	catccaaacc	gttcgttggc	gtgctgagcg	caggtattaa	cgcgcgc	2340
ccgaacaaag	agctggcgaa	agagttcctc	gaaaactatc	tgctgactga	tgaaggctcg	2400
gaagcggta	ataaagacaa	accgctgggt	gccgtagcgc	tgaagtctta	cgaggaagag	2460
ttggcgaaag	atccacgtat	tgccgcacc	atgaaaacg	cccagaaagg	tgaaatcatg	2520
ccgaacatcc	cgcagatgtc	cgcttctgg	tatgccgtgc	gtactgcgg	gatcaacgc	2580
gccagcggc	gtcagactgt	cgtatgaagcc	ctgaaagacg	cgcagactaa	ttcgagctcg	2640
gtacccggcc	ggggatccat	cgagggtagg	gccgaccgag	gactgaccac	tgcaccagg	2700
tctgggttga	caaataatcaa	gacggaggag	atctctgaag	tgaatctgga	tgcagaattc	2760
cgacatgact	caggatatga	agttcatcat	caaaaattgg	tgttcttgc	agaagatgt	2820
ggttcaaaca	aaggtgcaat	cattggactc	atggtggcg	gtgttgc	agcgacagt	2880
atcgcatca	ccttggtgat	gctgaagaag	aaacagtaca	catccattca	tcatggtg	2940
gtggaggttg	acgcccgtgt	cacccagag	gagcgccacc	tgtccaagat	gcagcagaac	3000
ggctacgaaa	atccaaccta	caagttctt	gagcagatgc	agaactagac	ccccgc	3060
gcagcctctg	aagttggaca	gcaaaaccat	tgcttacta	cccatcggt	tccattata	3120
gaataatgt	ggaagaaaca	aaccgtttt	atgatttact	cattatcgcc	tttgacagc	3180
tgtgctgtaa	cacaagtata	tgccctgaact	tgaattaatc	cacacatcg	taatgtattc	3240
tatctctctt	tacatttgg	tctctatact	acattattaa	tggttttgt	gtactgtaaa	3300
gaatttagct	gtatcaaact	agtaatagcc	tgaattcgt	aacctaacc	tcgatggatc	3360
ctctagagtc	gacctgcagg	caagcttggc	actggccgtc	gttttacaac	gtcgtactg	3420
ggaaaaccct	ggcggtaccc	aacttaatcg	ccttgcagca	catccccctt	tcgcccagctg	3480
gcgtaatagc	gaagaggccc	gcaccgatcg	cccttccaa	cagttgcgc	gcctgaatgg	3540
cgaatggcag	cttggctgtt	ttggcggatg	agagaagatt	ttcagcctga	tacagattaa	3600
atcagaacgc	agaagcggc	tgataaaaaca	gaatttgct	ggcggcagta	gcccgggtgg	3660
cccacctgac	cccatgcccga	actcagaagt	gaaacgcccgt	agcgcgc	gtagtgtgg	3720
gtctccccat	gcgagagtag	ggaactgcca	ggcatcaa	aaaacgaaag	gctcagtcga	3780
aagactgggc	ctttcgttt	atctgttgg	tgtcggtgaa	cgctctcctg	agttaggacaa	3840

atccgcccggg	agcggatttg	aacgttgcga	agcaacggcc	cgagggtgg	cgggcaggac	3900
gcccgcata	aactgccagg	catcaaatta	agcagaaggc	catcctgacg	gatggcctt	3960
ttgcgttct	acaaactctt	tttgttatt	tttctaaata	cattcaaata	tgtatccgct	4020
catgagacaa	taaccctgat	aatgcttca	ataatattga	aaaaggaaga	gtatgagtat	4080
tcaacattc	cgtgtcgccc	ttattccctt	tttgccgca	ttttgccttc	ctgttttgc	4140
tcacccagaa	acgctggta	aagtaaaaga	tgctgaagat	cagttgggtg	cacgagtgaa	4200
ttacatcgaa	ctggatctca	acagcgtaa	gatccttgag	agtttcgccc	ccgaagaacg	4260
ttttccaatg	atgagcactt	ttaaagtct	gctatgtggc	gcggatttat	cccggtttga	4320
cgcgggcaa	gagcaactcg	gtcgccgcat	acactattct	cagaatgact	tggttgagta	4380
ctcaccagtc	acagaaaagc	atcttacgga	tggcatgaca	gtaagagaat	tatgcagtgc	4440
tgcataacc	atgagtgata	acactgcggc	caacttactt	ctgacaacga	tcggaggacc	4500
gaaggagcta	accgctttt	tgcacaacat	ggggatcat	gtaactcgcc	ttgatcggt	4560
ggaaccggag	ctgaatgaag	ccataccaaa	cgacgagcgt	gacaccacga	tgcctgtac	4620
aatggcaaca	acgttgcgca	aactattaac	tggcgaacta	cttactctag	cttccggca	4680
acaattaata	gactggatgg	aggcggataa	agttgcagga	ccacttctgc	gctcgccct	4740
tccggctggc	tggtttattt	ctgataaattc	tggagccggt	gagcgtgggt	ctcgccgtat	4800
cattgcagca	ctggggccag	atggtaagcc	ctcccgatc	gtagttatct	acacgacggg	4860
gagtcaggca	actatggatg	aacgaaatag	acagatcgct	gagataggtg	cctcactgat	4920
taagcattgg	taactgtcag	accaagttt	ctcatatata	cttagattt	atttaaaact	4980
tcattttaa	ttaaaaagga	tctaggtgaa	gatcctttt	gataatctca	tgaccaaaat	5040
cccttaacgt	gagtttcgt	tccactgagc	gtcagacccc	gtagaaaaga	tcaaaggatc	5100
ttcttgagat	ccttttttc	tgcgcgtaat	ctgctgttgc	caaacaaaaa	aaccaccgct	5160
accagcggtg	gtttgtttgc	cggatcaaga	gctaccaact	cttttccga	aggttaactgg	5220
cttcagcaga	gcgcagatac	caaatactgt	ccttctagtg	tagccgtat	taggccacca	5280
cttcaagaac	tctgttagcac	cgcctacata	cctcgctctg	ctaattctgt	taccagtggc	5340
tgctgccagt	ggcgataagt	cgtgtcttac	cgggttggac	tcaagacgat	agttaccgga	5400
taaggcgcag	cggcgggct	gaacgggggg	ttcgtgcaca	cagcccagct	tggagcgaac	5460
gacctacacc	gaactgagat	acctacagcg	tgagctatga	gaaagcgcca	cgttcccgaa	5520
agggagaaag	gcggacaggt	atccggtaag	cggcagggtc	ggaacaggag	agcgcacgag	5580
ggagcttcca	gggggaaacg	cctggtatct	ttatagtcct	gtcgggttcc	gccacctctg	5640
acttgagcgt	cgattttgt	gatgctcgtc	agggggcgg	agcctatgga	aaaacgcccag	5700
caacgcggcc	ttttacggt	tcctggcctt	ttgctggcct	tttgctcaca	tgttctttcc	5760

tcgcgttatcc cctgattctg tggataaccg tattaccgcc tttgagtgag ctgataccgc	5820
tcgcccgcagc cgaacgaccg agcgcagcga gtcagtgagc gaggaagcgg aagagcgcct	5880
gatgcggtat tttctcctta cgcacatctgtg cggttattca caccgcataat ggtgcactct	5940
cagtacaatc tgctctgtat ccgcatacgat aagccagttt acactccgt atcgctacgt	6000
gactgggtca tggctgcgcc ccgacacccg ccaacacccg ctgacgcgcct ctgacgggct	6060
tgtctgctcc cggcatccgc ttacagacaa gctgtgaccg tctccgggag ctgcacgtgt	6120
cagagggttt caccgtcatc accgaaacgc gcgaggcagc tgccgtaaag ctcacatcagcg	6180
tggtcgtgaa gcgattcaca gatgtctgcc tggatccatccg cgtccagctc gttgagttc	6240
tccagaagcg ttaatgtctg gcttctgata aagcgggcca tggtaagggc ggtttttcc	6300
tgtttggtca cttgatgcct ccgtgttaagg gggaaatttct gttcatgggg gtaatgatac	6360
cgtatgaaacg agagaggatg ctcacgatac gggtaactga tggatgaaat gcccggttac	6420
tggAACGTTG tgagggtaaa caactggcg tatggatgca gcccggaccag agaaaaatca	6480
ctcagggtca atgcccgcgc ttgttaata cagatgttagg tggatccacag ggttagccagc	6540
agcatcctgc gatgcagatc cggAACATAA tggatccacag cgctgacttc cgcgtttcca	6600
gactttacga aacacggaaa ccgaagacca ttcacatgtgt tgctcaggcgc gcaacgttt	6660
tgcaggcagca gtcgcTTcac gttcgctcgc gtatcggtga ttcattctgc taaccagtaa	6720
ggcaaccccg ccagcctagc cgggtccctca acgacaggag cacgatcatg cgcacccgtg	6780
gccaggaccc aacgctgcccc gaaatt	6806

<210> 195

<211> 13

<212> PRT

<213> Artificial sequence

<220>

<223> Description of artificial sequence: synthetic peptide sequence

<220>

<221> MOD\_RES

<222> (1)...(1)

<223> ACETYLATION (MCA)

<220>

<221> SITE

<222> (11)..(11)

<223> 2,4-dinitrophenyl group after the Lys at position 11

<400> 195

Ser Glu Val Asn Leu Asp Ala Glu Phe Arg Lys Arg Arg  
1 5 10

<210> 196

<211> 12

<212> PRT

<213> Artificial sequence

<220>

<223> Description of artificial sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (4)..(4)

<223> amino acid at position 4 has been derivatized with a statine

<400> 196

Ser Glu Val Asn Val Ala Glu Phe Arg Gly Gly Cys  
1 5 10

<210> 197

<211> 10

<212> PRT

<213> synthetic peptide sequence

<220>

<221> SITE

<222> (4)..(4)

<223> amino acid at position 4 has been derivatized with a statine

<220>

<221> SITE

<222> (10) .. (10)

<223> amino acid at position 10 has been derivatized with Bodipy FL

<400> 197

Ser Glu Val Asn Val Ala Glu Phe Arg Cys  
1 . . . . . 5 . . . . . 10